
A New Species of *Cyrtandra* (Gesneriaceae) from Hawai'i, Hawaiian Islands

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ABSTRACT. A new Hawaiian species of the Pacific genus *Cyrtandra* J. R. Forster & G. Forster, *C. wagneri* Lorence & Perlman, is described from the island of Hawai'i. It is unique in its combination of opposite leaves, cauligerous 12- to 25-flowered cymose inflorescences, deeply divided calyx that is actinomorphic, symmetrical in bud, and persistent in fruit, and calyx lobes that are lanceolate to linear-oblong, green, and internally puberulent distally. Due to its restricted distribution, small population size, and vulnerability to threats from feral animals, weeds, and stochastic events, it is considered to be critically endangered (CR) based on IUCN Red List criteria.

Key words: *Cyrtandra*, Gesneriaceae, Hawai'i, IUCN Red List.

Cyrtandra J. R. Forster & G. Forster is the largest genus of Gesneriaceae, represented by at least 600 species centered in southeastern Asia and the Malesian region (Cronk et al., 2005). Primarily restricted to wet, evergreen, and rainforest regions, *Cyrtandra* species are typically very sensitive to habitat disturbance. The genus ranges from northern Queensland, Australia, eastward through Melanesia, Micronesia, and Polynesia to the Hawaiian Islands, where 58 species occur. *Cyrtandra* is very complex in the Hawaiian Islands, with 514 names for the 58 species currently recognized by Wagner (1999) and Wagner et al. (2006). All Hawaiian species are endemic, and many are restricted to a single island or even a single locality (Wagner, 1999; Wagner et al., 2001). Wagner (1999) assigned the Hawaiian species to six sections, although current evidence suggests that the Hawaiian lineage is the result of a single colonization event (Cronk et al., 2005). More than 80 natural hybrid combinations have been identified, but these generally occur as isolated individuals where two or more species grow sympatrically (Wagner, 1999). Intensive collecting efforts by the National Tropical Botanical Garden (NTBG) collectors have revealed a number of new species, rediscoveries, and range extensions throughout the Hawaiian Islands in a diversity of vascular plant families. The following new species was collected by Steven Perlman in the

Laupahoehoe Natural Area Reserve (NAR) on the Big Island of Hawai'i.

Cyrtandra wagneri Lorence & Perlman, sp. nov.

TYPE: Hawaiian Islands (U.S.A.). Hawai'i: North Hilo District, Laupahoehoe NAR, banks of Kaiwilahilahi stream, both sides of stream, 2700–2800 ft. [823–853 m], 19°56.416'N, 155°16.057'W, 20 June 2003, S. P. Perlman, L. Perry & R. Warshauer 17591 (holotype, PTBG; isotypes, BISH, MO, US). Figure 1.

Species a congeneribus hawaiiensibus inflorescentiis caulinis cymosis 12- ad 25-floris, calyce floralium regulari profunde fisso, lobis calycinis erectis lanceolatis vel lineari-oblongis aequalibus 12–14 mm longis, 2–3 mm latis, intra apicem versus pubescentibus differt.

Shrub or treelet to 3 m tall, main stem solitary or sparsely branched, to 2.5 cm diam., most parts golden- to dark-brown villousulous-hirtellous with spreading to antrorsely curved septate hairs 0.4–0.9 mm, leafy stems 5–10 mm diam., internodes 2–3 cm; leaves of a pair equal or subequal, symmetrical to somewhat asymmetrical, petiole 2.5–10 cm, densely villousulous-hirtellous, blade elliptic to oblong-elliptic, 20–41 × 8–18.5 cm, adaxially densely strigillose-hirtellous, abaxially moderately to densely velutinous-hirtellous with crinkled hairs, pubescence denser on veins and margin, venation prominent and raised, margin serrulate, teeth with hair tufts. Inflorescences cauligerous, borne near ground level or up to 2 m above, dichasial, at first erect, becoming pendulous with age, 4–6 × 4–9 cm, 2- to 3-branched cymes of 12 to 25 flowers, densely brown villousulous-hirtellous, primary axes 1–2.5 cm, secondary axes 1–2 cm, usually ending in 2- to 4-flowered cymules, bracts narrowly ovate to oblong, 4–9 × 1.5–2 mm; flowers on robust pedicels 10–15 mm long; calyx actinomorphic, green when fresh, 13–15 mm, cleft to 7/8 its length or nearly to the base, the lobes erect, lanceolate to linear-oblong, 12–14 × 2–3 mm, apex acute, externally densely golden brown strigulose-hirtellous, internally strigulose in distal 1/2–2/3; corolla white, tube subcylindrical, flaring somewhat



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